REMARKS/ARGUMENTS

This is a Response to the Office Action mailed August 20, 2003, in which a three (3) month Shortened Statutory Period for Response has been set, due to expire November 20, 2003. Forty (40) claims, including six (6) independent claims, were paid for in the application. No claims have been canceled. Claim 37 has been amended. New claim 41 has been added. No new matter has been added to the application. A fee for one (1) additional claim is due by way of this Amendment. The Commissioner is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090. Claims 1-41 are pending.

Claim 37 was amended to delete the limitation of increasing the oxidant air flow rate when the power output of the stack is below a defined threshold. New claim 41, dependent on claim 37, has been added to recite the limitation of increasing the oxidant air flow rate when the power output of the stack is below a defined threshold. Support for these amendments can be found, for example, at page 2 lines 14-15 and page 21 lines 5-20 of the specification.

Objections

Claims 2-17, 28-36 and 39 were objected to as being dependent on a rejected base claim, and were noted as being allowable if rewritten in independent form to include all limitations of the base claims and any intervening claims.

Applicants respectfully note that allowable claim 10 is an independent claim, and that claims 11-17 depend either directly or indirectly from claim 10. Accordingly, claims 10-17 are in condition for allowance without further amendment, per the Office Action.

35 U.S.C. §102(e) Rejections

Claims 1, 21-25, 37-38 and 40 were rejected under 35 U.S.C. §102(e) as being anticipated by Reiser (U.S. Patent No. 6,497,971).

Reiser is principally directed to the use of multiple blowers in a fuel cell system employing fuel cell stack comprised of one or more fuel cell stack assemblies. In particular, the use of multiple blowers allows the operating characteristics of individual stack assemblies or

groupings to be independently varied by independently controlling the blowers. Reiser, col. 6, lines 14-20 and lines 53-56. The blowers may push/pull oxidant to/from the cathode via one or more manifolds. Reiser, col. 6, lines 20-22.

Reiser is also directed to the use of multiple blowers to control the operation of the fuel cells. In particular, the fuel cell system may vary the speed of the blowers in response to the operating parameters or characteristics of the fuel cell stack assembly measured by one or more sensors. Reiser, col. 6, lines 27-67. The sensors may be sensitive to temperature, voltage, oxygen, and humidity. Reiser, col. 6, lines 35-37.

Reiser is principally concerned with equalizing or otherwise compensating for variations in voltage, power output, temperature, or oxygen concentration between the various fuel cell assemblies comprising the fuel cell stack. Reiser, col. 4, lines 40-44. For example, Reiser teaches adjusting the speed of one of the blowers to control the amount of oxidant supplied to the fuel cell in order to increase the reaction rate and thus the temperature of the cooler ones of the stack assemblies. Reiser, col. 6, lines 59-67.

Thus, Reiser teaches the use of multiple blowers to dynamically control the fuel cell assembly, *i.e.*, continually maintaining a desired temperature, voltage, current, oxygen concentration and electrical output of any one of the individual fuel cell stack assemblies with respect to the other fuel cell stack assemblies. Reiser, col. 3, lines 12-21. As such, Reiser does not teach *temporarily* adjusting the oxidant stream flow rate for a *resuscitation* period. Rather, Reiser teaches adjusting the oxidant stream flow rate for an indeterminate period until the desired effect is accomplished, and thereafter to maintain the desired effect. For example, Reiser teaches that the sensed parameter triggers an increase *or* a decrease in oxidant flow, and accordingly, that the change in oxidant flow is maintained until the desired temperature, voltage, current, oxygen concentration and electrical output is reached. Reiser's technique is illustrated at col. 3, lines 24-27, in which stack temperature is monitored, and oxidant flow is increased when the temperature is too low, and reduced when the temperature is too high.

Importantly, Reiser teaches away from temporarily increasing the oxidant stream flow rate to achieve a higher than normal oxidant stoichiometry. For example, Reiser discusses the desirability of providing proper operating stoichiometry, temperature and power output of cell

stacks, while noting the problem of maintaining such across all of the fuel cells in the stack Reiser, col. 2, lines 14-29. In this respect, Reiser teaches controlling the variable speed motors "to tailor the flow of oxidant with the *needs* of the fuel cell stack." Reiser, col. 4, lines 30-32 (emphasis added). One skilled in the art will understand such a statement as corresponding to maintaining the normal stoichiometry of the oxidant delivered to the fuel cells.

In contrast, according to the present techniques, oxidant flow is *temporarily* adjusted in an attempt to recover performance. This is not merely dynamic control of oxidant supply, *e.g.*, in response to varying electrical power output demand. In the present techniques, oxidant flow is *temporarily* increased for a resuscitation duration (see, for example, page 19, line 22 and page 20, lines 1-5 and following). Unlike Reiser, the supply of the oxidant at an increased rate does not necessarily continue until the sensed parameter comes back into the desired range. Rather, according to the present technique, the adjustment may continue after the desired condition is achieved, or the adjustment may cease before the desired condition is achieved.

With specific reference to Claim 1 of the present application, Reiser does not disclose or suggest *temporarily* increasing the oxidant stream flow rate through the oxidant passage for a *resuscitation duration.* See, *e.g.*, Reiser col. 2, line 63-col. 3, line 1. Accordingly, Claim 1 is not anticipated by Reiser.

Claim 21 similarly is not anticipated by Reiser, as again, Reiser does not disclose or suggest *temporarily* increasing the oxidant stream flow rate through the oxidant passage. Accordingly, Claim 21 is not anticipated by Reiser. Dependent Claims 22 through 25 contain additional limitations, and are similarly not anticipated by Reiser.

With respect to amended Claim 37 and dependent Claims 38-41, Reiser does not disclose "*intermittently temporarily* increasing the oxidant air flow rate beyond the nominal air flow rate" (emphasis added). Specifically, Reiser is silent with respect to intermittency, and discloses only controlling delivery of oxidant based on the input of sensors sensing operating characteristics of the fuel cell stack assemblies. Accordingly, as there is nothing in Reiser that discloses "intermittently temporarily increasing the oxidant air flow rate" –without necessarily

relying on a sensed operating parameter to trigger the increase as required by Claims 37, 38, 40 and 41, Reiser cannot anticipate those claims.

Furthermore, with respect to dependent Claims 23 and 38, Reiser teaches away from temporarily increasing the oxidant stoichiometry. Instead, the object of Reiser is maintaining "the *proper* operating sto[i]chiometry." Reiser, col. 2, lines 14-18 (emphasis added).

Rejections Under 35 U.S.C. § 103

Claims 26 and 27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Reiser (U.S. Patent No. 6,497,971).

As outlined above, Reiser does not disclose or suggest "*temporarily* increasing the oxidant stream flow rate through an oxidant passage" as recited by Claims 26 and 27.

In addition, Reiser does not teach or suggest increasing the oxidant stream flow rate via increasing the duty cycle of an air compressor coupled to the oxidant passage by approximately 50 percent (Claim 26) for a resuscitation duration of approximately 5 seconds (Claim 27). In fact Reiser teaches away from increasing the duty cycle of an air compressor by approximately 50 percent as the purpose of the techniques in Reiser is to vary the supply of oxidant from multiple blowers in order to control the temperature, voltage, current, oxygen concentration and humidity of the fuel cell stack. Increasing the duty cycle of an air compressor by approximately 50 percent, irrespective of the sensed operating characteristic, is inconsistent with the goal of Reiser of adjusting the oxidant flow in accordance with the sensed operating characteristic.

Accordingly, Claims 26 and 27 are not obvious in view of Reiser.

Conclusion

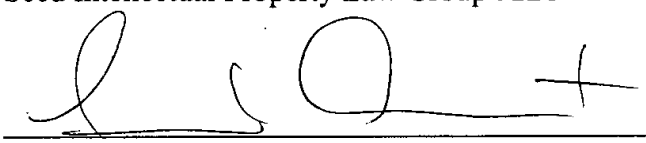
Applicants thank the Examiner for allowing claims 18-20, and for indicating the allowable subject matter of claims 2-17, 28-36 and 39. Overall, the cited references do not singly, or in any motivated combination, teach or suggest the claimed features of the embodiments recited in independent claims 1, 10, 18, 21, 33, and 37, and thus such claims are allowable. Because the remaining claims depend from allowable independent claims 1, 10, 18,

21, 33, and 37, and also because they include additional limitations, such claims are likewise allowable. If the undersigned attorney has overlooked a relevant teaching in any of the references, the Examiner is requested to point out specifically where such teaching may be found.

In light of the above amendments and remarks, Applicants respectfully submit that all pending claims are allowable. Applicants, therefore, respectfully request that the Examiner reconsider this application and timely allow all pending claims. Examiner Bell is encouraged to contact Mr. Abramonte by telephone to discuss the above and any other distinctions between the claims and the applied references, if desired. If the Examiner notes any informalities in the claims, he is encouraged to contact Mr. Abramonte by telephone to expediently correct such informalities.

Respectfully submitted,

Seed Intellectual Property Law Group PLLC



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